



STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
COOKEVILLE ENVIRONMENTAL FIELD OFFICE  
DIVISION OF WATER RESOURCES  
1221 SOUTH WILLOW AVENUE  
COOKEVILLE, TN 38506  
PHONE 931-520-6688      STATEWIDE 1-888-891-8332      FAX 931-432-6952

September 14, 2016

Honorable Bennett Armstrong  
Mayor, City of Alexandria  
City Hall  
P.O. Box 277  
Alexandria, TN 37012

**RE: COMPLIANCE EVALUATION INSPECTION (CEI)**  
City of Alexandria Waste Water Treatment Plant, TN0021539  
Highway 53, Alexandria, Dekalb County, Permit Expiration: June 30<sup>th</sup>, 2017

Dear Mayor Armstrong:

Division of Water Resources staff wishes to thank the Alexandria Wastewater Treatment Plant (WWTP) Operator, Mr. Dale Smith, for his courtesy during the recent Compliance Evaluation Inspection (CEI) at the City of Alexandria WWTP on August 23, 2016.

This inspection included a portion of the collection system, a review of the Monthly Operational Reports (MORs), Discharge Monitoring Reports (DMRs) and a review of the laboratory.

**Records and Reports**

TDEC Staff reviewed WWTP records. Information is being retained for three years. The temperature logs for incubators and samplers were in good order. Analytical Bench Sheets were consistent with the sampled MOR/DMR data. The current MOR sheet may be transferred to an electronic version in excel in order to easily attach to the NetDMR report. No white out solution or masking material should be used on any of the laboratory forms, reports, logs, etc.

The current NPDES permit (available on site) became effective on August 1, 2012 and will expire on June 30, 2017. It is necessary to apply for the new permit six (6) months prior to expiration.

### **Facility Site Review**

The Sequencing Batch Reactors (SBRs) were operating. Two seals on the discharge covers in the SBR units were functioning well. The grit removal device was operational and recently cleaned. A "Flo-Mate" sludge thickener was being used. The thickened solids are taken to a landfill for disposal. The old plant's existing lab building houses the operational blowers for the SBRs. The SBR's computer is located in the blower room. The digester was operational. Objectionable odor was not notable. Emergency power was available. The ultra violet bulbs for disinfection were energized.

### **Flow Measurement**

Access to the influent flume and transducer (primary and secondary flow measurement) would require confined space entry. The influent flow meter transducer submerges during heavy rain events. Upon submergence the influent flow transducer becomes inaccurate and cannot accurately communicate with the composite sampler. This may become a maintenance issue in the future. An internal thermometer was present in the composite sampler's refrigerators. The temperature was an acceptable 4.0 degrees centigrade in each sampler. The effluent flume and flow meter were observed. They were operational.

### **Laboratory**

The lab equipment was operational. The pH calibration is performed as a "two point" using buffers 7 and 10, bracketing the typical reading. The "Ammonia" and "Phosphorous" tests are contracted to an outside laboratory. Chain of Custody documentation for these analyses was available. Calibration Log Books and Laboratory Bench Sheets have improved. Bench sheets require some minor tweaking, for example the Operator should initial all lab related procedures and Quality Assurance/Quality Control (QA/QC) procedures should be clearly identified on the bench sheets. Some tests for the Watertown Wastewater Treatment Plant are performed at this Alexandria laboratory.

As discussed in the last inspection a QA/QC manual is still under development. The laboratory QA/QC manual should document the quality assurance test frequencies and procedures that are being performed. The current test frequency utilized by the Operator for CBOD is a duplicate performed during the second week of each month. Blanks are being analyzed for Total Suspended Solids. The D.O. probe is being air calibrated. The IDEXX method is used for the E. coli analysis. A water bath incubator is utilized for the E. coli 24 hour incubation period. A single Imhoff cone was in use for the Settleable Solids analysis.

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### **Operation and Maintenance**

The operator has performed maintenance on several WWTP components in the facility. Spare parts for various types of equipment are on site.

### **Sludge Handling**

The digester has adequate capacity and is well aerated. Adequate sludge handling and disposal is easily maintained using a polymer in conjunction with a screened filter box (sludgemate). The sludge is disposed at a local landfill. Alexandria's wastewater is largely domestic with little industry.

### **Collection System Overflows**

Problems with the collection system are evident and generally occur after or during rain events (by the reported flows on the MORs). It is a permit requirement that the Operator report all sewer overflows. A separate overflow report is to be submitted with the MOR and the DMR. It should include any recent work or repairs on the collection system. Please keep in mind that the receiving stream (Hickman Creek) is impaired (303d listed) for several pollutants. Some of these pollutants are believed to be related to the municipal point source of the Alexandria Wastewater Treatment Plant discharge and or the sewer collection system.

### **Recommendations**

- ✓ Please continue to perform sewer line rehabilitation and maintenance in order to reduce the inflow of storm water into the sewer collection system. Point repairs may then be performed by the City's maintenance crew or contractors. Hickman Creek is 303d listed.
- ✓ QA/QC procedures will require more focus. Please develop a QA/QC manual that demonstrates the written QA/QC procedures. TAUD will be a good source for information in developing this manual. It will serve as a solid resource when training new operators. Operators will also benefit from a Laboratory Standard Operating Procedures (SOP) manual along with the Operations and Maintenance SOP. It is recommended that the Operator attend laboratory training with regard to QA/QC. Wastewater laboratory courses are offered at the Fleming Training Center in Murfreesboro.
- ✓ The annual sludge analysis required for disposal (503 regulations) was discussed. Please keep in mind that sludge related documents are to be kept for a period of five (5) years.

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The Division of Water Resources would like to again thank Mr. Dale Smith for his time and courtesy during this inspection.

If you have any questions, you may contact Oakley Hall in Cookeville by way of telephone at (931) 520-6677 or toll free at 1-(888)-891-8332. You may also use electronic mail at: [Oakley.Hall@tn.gov](mailto:Oakley.Hall@tn.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Johnny K. Walker", with a long horizontal flourish extending to the right.

Johnny K. Walker  
Environmental Program Manager  
Division of Water Resources  
Cookeville Environmental Field Office

Enclosure: Water Quality Inspection Form 3560

cc: EFO-CK, DeKalb County DWR File TN0021539



TDEC - Division of Water Resources  
Cookeville Field office

ICIS NPDES Facilities Inspection Report

Facility Data

NPDES ID:	TN0021539	Facility Site Name	City of Alexandria Wastewater Treatment plant		
		Address	35 Edgewood Rd. Alexandria		
Permit Eff. Date:	Aug 1, 2012	Permit Exp Date:	Jun 30, 2017	SIC Code:	

Compliance Monitoring Information

Compliance Monitoring Activity Name	Compliance Evaluation (non-sampling) (CEI)				
	* If Bio Monitoring is selected above, select the method used:				
Compliance Monitoring Activity	Evaluation				

Compliance Monitoring Dates/Times

Entry Date/Time (mm/dd/yyyy hh:mm):	8/23/16; 9:00 AM	Exit Date/Time (mm/dd/yyyy hh:mm):	8/23/16; 12:30 PM
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Facility Representatives

Mr. Dale Smith, Wastewater Operator, (615) 237-3326	Honorable Bennett Armstrong, (615) 529-2171
On-Site Representative(s) Title, Phone Number	Responsible Official(s), Title, Phone Number

Statute and Section Information

Federal Statute:	CWA - Clean Water Act	State Statute:	Tennessee Water Quality Control Act	
Programs:	NPDES- Base Program (Limits, Reporting, & Schedule)			
Compliance Monitoring Reason:	Core Program			
Compliance Monitoring Agency Type:	State	Agency Name:	TDEC - DWR	
Did EPA assist/ Inspection?	No	Time Physically conducting activity: Days:	3	Hours: 0
Inspection Type:	State	Compliance Monitoring Action Outcome:	No Violation	
Lead Agency:	State	Compliance Monitoring Rating Code:	Unrated	
If Joint Inspection, what was the purpose of the other party?	N/A			

Areas Evaluated During Inspection (Check only those areas evaluated)

<input checked="" type="checkbox"/> Permit	<input type="checkbox"/> Self - Compliance Program	<input type="checkbox"/> Pretreatment
<input checked="" type="checkbox"/> Records / Records	<input type="checkbox"/> Compliance Schedule	<input type="checkbox"/> Pollution Prevention
<input checked="" type="checkbox"/> Facility Site Review	<input checked="" type="checkbox"/> Laboratory	<input type="checkbox"/> Storm Water
<input checked="" type="checkbox"/> Effluent / Receiving Waters	<input checked="" type="checkbox"/> Operations & Maintenance	<input type="checkbox"/> Combined Sewer Overflow
<input type="checkbox"/> Flow Measurement	<input checked="" type="checkbox"/> Sludge Handling / Disposal	<input type="checkbox"/> Sanitary Sewer Overflow

Compliance Monitoring Summary

Mr. Dale Smith has recently taken over the operation of the facility. Some additional QA/QC improvements are needed in the laboratory. Lab classes are recommended.

EPA and State Representatives

W. Oakley Hall	TDEC/DWR (931) 520-6677	Sep 14, 2016
Inspector's Signature	Agency / Office / Phone	Date
Johnny K. Walker	TDEC/DWR (931) 520-6688	Sep 14, 2016
Manager's Signature	Agency / Office / Phone	Date

(Note: This form can only be printed to an XPS document, then saved for later use.)